CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377

Job No.: CTCE/BBMP/W.No.13/MSM/CSR-05/045j/CEMENT/2016-17 Date: 23.05.2016

TEST REPORT ON CEMENT

* CUSTOMER	:	**Asst. Executive Engineer**, Shettyhalli Sub Division, BBMP, Bangalore.
*AGENCY	:	**Mr. M.S. Muralidhara,** # 42, 1st Main, 2nd A Cross, Havanur Layout, Bangalore - 73.
*NAME OF THE WORK	:	Construction of RCC drain in 6th Cross road at Prashantha Nagara in Ward No. 13, Shettyhalli Sub Division, BBMP, Bangalore.
REFERENCE	:	AEE/SSD/PR/24/2016-17 Dated: 21.05.2016
SAMPLE ID	:	Cement
SAMPLE RECEIVED ON	:	21.05.2016
PERIOD OF TESTING	:	21.05.2016 to 23.05.2016

The results of the tests conducted on the cement sample are as follows:

Sl. No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	Standard Consistency	IS-4031 (Part -4) 1988(RA-2009)	29.00%	-
2	a) Initial Setting Time	IS-4031 (Part -5) 1988(RA-2009)	140 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5) 1988(RA-2009)	465 Minutes	Not More than 600 Minutes
3	Soundness by Le Chartlier Method	IS-4031 (Part-3) 1988(RA-2009)	1 mm	Not more than 10mm

*Information is furnished by the Customer/Representative.

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VISHWANATH. I.A.
Chief Executive Officer

AE-13

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ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ
ಎಸ್.ಎಂ. ರಸ್ತೆ, ರವೀಂದ್ರನಗರ, ಬೆಂಗಳೂರು

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Job No.: CTCE/BBMP/W.No.13/MSM/CSR-05/045j/SAND-Gradation/2016-17 : 23.05.2016

TEST REPORT ON DETERMINATION GRADATION OF FINE AGGREGATES

* Customer : **Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.

* Agency : **Mr. M.S. Muralidhara,**
# 42, 1st Main, 2nd A Cross, Havanur Layout, Bangalore - 73.

* Name of Work : Construction of RCC drain in 6th Cross road at Prashantha Nagara in Ward No. 13, Shettyhalli Sub Division, BBMP, Bangalore.

Reference : AEE/SSD/PR/24/2016-17 Dated: 21.05.2016

Technical Reference : IS : 2386 Part 1 - 1963 RA-2007

Sample ID : Fine Aggregates

Sample Received on : 21.05.2016

Date of Testing : 23.05.2016

Total Wt. of Aggregates in gms **1000**

Is Sieve Size in mm	Cumulative Weight Passing in %	Spec.Limits as per IS 383-1970 (RA- 2007)			
		Zone-I	Zone-II	Zone-III	Zone-IV
10	100	100	100	100	100
4.75	91.50	90-100	90-100	90-100	95-100
2.36	77.50	60-95	75-100	85-100	95-100
1.18	56.30	30-70	55-90	75-100	90-100
600 Micron	36.50	15-34	35-59	60-79	80-100
300 Micron	16.90	5-20	8-30	12-40	15-50
150 Micron	4.80	0-10	0-10	0-10	0-15

* Information is furnished by the Customer/Representative

Remarks : This sample is under Zone-II specific limits.

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Job No.: CTCE/BBMP/W.No.13/MSM/CSR-05/045j/AGG/GR/2016-17 : 23.05.2016

TEST REPORT ON COARSE AGGREGATES

* Customer	: **Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
* Agency	: **Mr. M.S. Muralidhara,** # 42, 1st Main, 2nd A Cross, Havanur Layout, Bangalore - 73.
* Name of Work	: Construction of RCC drain in 6th Cross road at Prashantha Nagara in Ward No. 13, Shettyhalli Sub Division, BBMP, Bangalore.
Reference	: AEE/SSD/PR/24/2016-17 Dated: 21.05.2016
Technical Reference	: IS : 2386 Part 1 -1963 RA-2007
Sample ID	: Coarse Aggregates (40mm)
Sample Received on	: 21.05.2016
Date of Testing	: 23.05.2016

Total Wt. of Aggregates in gms= **7000**

Is Sieve Size in mm	Cumulative Weight Passing in %	Spec.Limits as per IS 383-1970 (RA- 2007)	
		Graded	Single Sized
80	100	100	-
63	100	-	100
40	96.21	95-100	85-100
20	34.20	30-70	0-20
10	13.93	10-35	0-5
4.75	1.89	0-5	-

* Information is furnished by the Customer/Representative

Remarks : This sample is under Graded specific limits.

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Job No.: CTCE/BBMP/W.No.13/MSM/CSR-05/045j/AGG/GR/2016-17 : 23.05.2016

TEST REPORT ON COARSE AGGREGATES

* Customer	: **Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
* Agency	: **Mr. M.S. Muralidhara,** # 42, 1st Main, 2nd A Cross, Havanur Layout, Bangalore - 73.
* Name of Work	: Construction of RCC drain in 6th Cross road at Prashantha Nagara in Ward No. 13, Shettyhalli Sub Division, BBMP, Bangalore.
Reference	: AEE/SSD/PR/24/2016-17 Dated: 21.05.2016
Technical Reference	: IS : 2386 Part 1 -1963 RA-2007
Sample ID	: Coarse Aggregates (20mm)
Sample Received on	: 21.05.2016
Date of Testing	: 23.05.2016

Total Wt. of Aggregates in gms= **5000**

Is Sieve Size in mm	Cumulative Weight Passing in %	Spec.Limits as per IS 383-1970 (RA- 2007)	
		Graded	Single Sized
40	100	100	100
20	96.42	95-100	85-100
10	31.14	25-55	0-20
4.75	3.40	0-10	0-5

* Information is furnished by the Customer/Representative

Remarks : This sample is under Graded specific limits

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AE-13
23/5

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Job No.: CTCE/BBMP/W.No.13/MSM/STEEL/2016-17

25.05.2016

TEST REPORT ON REINFORCEMENT STEEL

Customer	:	**Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
Agency	:	**Mr. M.S. Muralidhara,** # 42, 1st Main, 2nd A Cross, Havanur Layout, Bangalore - 73.
Name of the Work	:	Construction of RCC drain in 6th Cross road at Prashantha Nagara in Ward No. 13, Shettyhalli Sub Division, BBMP, Bangalore.
Reference	:	AEE/SSD/PR/24/2016-17 Dated: 21.05.2016
Date of Test	:	25.05.2016
Technical Reference	:	IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm^2	Tensile strength (Ultimate stress) N/mm^2	Elongation percent gauge length		
1	8	0.40	510	552	13.15	O.K	O.K

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Job No.: CTCE/BBMP/W.No.13/MSM/STEEL/2016-17 25.05.2016

TEST REPORT ON REINFORCEMENT STEEL

Customer	:	**Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
Agency	:	**Mr. M.S. Muralidhara,** # 42, 1st Main, 2nd A Cross, Havanur Layout, Bangalore - 73.
Name of the Work	:	Construction of RCC drain in 6th Cross road at Prashantha Nagara in Ward No. 13, Shettyhalli Sub Division, BBMP, Bangalore.
Reference	:	AEE/SSD/PR/24/2016-17 Dated: 21.05.2016
Date of Test	:	25.05.2016
Technical Reference	:	IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm^2	Tensile strength (Ultimate stress) N/mm^2	Elongation percent gauge length		
1	10	0.62	514	557	13.35	O.K	O.K

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T-2377

Job No.: CTCE/BBMP/W.No.13/MSM/CSR-05/045j/CUBE/2016-17 24.06.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	: **Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
* Agency	: **Mr. M.S. Muralidhara,** # 42, 1st Main, 2nd A Cross, Havanur Layout, Bangalore - 73.
* Name of the work	: Construction of RCC drain in 6th Cross road at Prashantha Nagara in Ward No. 13, Shettyhalli Sub Division, BBMP, Bangalore.
Reference	: AEE/SSD/PR/24/2016-17 Dated: 21.05.2016
* Sample ID	: RCC Drain Concrete
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
* Grade of Concrete	: M_{20}
Compressive Strength as on	: 28^{th} day
Sample Received on	: 24.06.2016

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	27.05.2016	24.06.2016	8.169	499.6	22.21
2	27.05.2016	24.06.2016	8.321	485.8	21.59
3	27.05.2016	24.06.2016	8.236	509.5	22.64

* Information is furnished by the Customer/Representative

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Job No.: CTCE/BBMP/W.No.13/MSM/CSR-05/045j/CUBE/2016-17 27.06.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	: **Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
* Agency	: **Mr. M.S. Muralidhara,** # 42, 1st Main, 2nd A Cross, Havanur Layout, Bangalore - 73.
* Name of the work	: Construction of RCC drain in 6th Cross road at Prashantha Nagara in Ward No. 13, Shettyhalli Sub Division, BBMP, Bangalore.
Reference	: AEE/SSD/PR/24/2016-17 Dated: 21.05.2016
* Sample ID	: RCC Drain Concrete
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
* Grade of Concrete	: M_{20}
Compressive Strength as on	: 28^{th} day
Sample Received on	: 27.06.2016

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	30.05.2016	27.06.2016	8.426	501.6	22.29
2	30.05.2016	27.06.2016	8.156	482.6	21.45
3	30.05.2016	27.06.2016	8.324	516.7	22.96

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